Methanol

SECTION 1. IDENTIFICATION

Product Identifier	Methanol
Other Means of Identification	13-390, 13-391, 13-391HD, 13-394, 13-394HD, 13-398, 13-398HD, 23-399, 23-399-1000, 23-399HD, 33-391D, 33-391RONA, 33-391RS, 33-394D, 33-394RONA, 33-394RS, 33-399SHEREXP, 83-394, 83-394MTH, 83-398, 83-398MTH, 83-399, 86-399SHER-1K, 545-159, 13-394LAU, 13-394U/N, 13-398IATA, 34-490SEL, 35-353PRES, 14-550, 34-550H, 34-550LOB, 34-550SEL, 83-399-40, 83-399SHER-1K, 85-228WGB, 15-224, 15-228, 25-229, 25-229-1000, 35-228WUR, 35-229CHR, BULK-15228, BULK-85228, 15-261, 15-264, 15-268, 25-269, 35-261RS, 35-261SO, 35-264PRES, 35-264RS, 35-264SO, 35-264STP
Other Identification	Methyl Hydrate, Gelled Methanol Fuel, Fondue Fuel, Gas Line Antifreeze, Windshield Washer Concentrate, Air Brake Antifreeze
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1525

SECTION 2. HAZARD IDENTIFICATION

Classification

Flammable liquid - Category 2; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 3; Eye irritation - Category 2B; Reproductive toxicity - Effects on or via lactation; Specific target organ toxicity (single exposure) - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):

H225	Highly flammable liquid and vapour.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H320	Causes eye irritation.
H362	May cause harm to breast-fed children.
H370	Causes damage to organs (eyes, kidneys, liver) if inhaled, following skin contact and/or if swallowed.

Precautionary Statement(s):
Prevention:

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical, ventilating, and lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe fume, mist, vapours, spray.
P264 Wash hands and skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, eye protection, face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P330 Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice or attention.
P370 + P378 In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder to extinguish.

Storage:
Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Disposal:
Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Methanol	67-56-1	80-100		

Notes

Use of Generic SDS:
If the concentration or actual concentration range of an ingredient of a particular hazardous product in the series is different from the concentration or actual concentration range disclosed for the rest of the series, either the concentration or the actual concentration range must be indicated beside that ingredient under item 3 (Composition/Information on ingredients) of the SDS. Furthermore, if any other specific information element(s) (such as flash point, numerical measure of toxicity, etc.) for a particular hazardous product in the series differs from that of the other products in the series (without affecting the classification), the information element relevant to that hazardous product must be disclosed on the SDS with an indication to which hazardous product each relates.

Source: Health Canada - Technical Guidance on the Requirements of the Hazardous Products Act and the Hazardous Products Regulations WHMIS 2015 Supplier Requirements - pg 117

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing has stopped, trained personnel should begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Get medical advice or attention if you feel unwell or are concerned. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. If breathing has stopped, trained personnel should immediately begin rescue breathing. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device. Immediately call a Poison Centre or doctor. Specific treatment is required.

Most Important Symptoms and Effects, Acute and Delayed

Can cause headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure can cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures.

Immediate Medical Attention and Special Treatment

Target Organs

Eyes, liver, nervous system.

Special Instructions

Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Medical Conditions Aggravated by Exposure

Respiratory conditions, dermatitis, eye conditions.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

Water is not effective for extinguishing a fire. It may not cool product below its flash point.

Specific Hazards Arising from the Product

Highly flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Can be ignited by static discharge. Can accumulate static charge by flow, splashing or agitation. Even dilute solutions in water may be flammable. May travel a considerable distance to a source of ignition and flash back to a leak or open container. See Section 9 (Physical and Chemical Properties) for flash point and explosive limits. Burns with an invisible flame. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire hazard.
Burns with an invisible flame.
In a fire, the following hazardous materials may be generated: toxic chemicals; very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.
See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient. Distant ignition and flashback are possible.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Methanol	200 ppm	250 ppm	200 ppm	250 ppm		

Appropriate Engineering Controls

General ventilation is usually adequate. For large scale use of this product: do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static electricity discharges which includes bonding of equipment to ground. Use only non-combustible, compatible materials for walls, floors, ventilation system, air cleaning devices, pallets, shelving. Provide safety shower in work area, if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Available in these colours: Clear, Yellow, Gold, Red, Blue, Green, Amber, Pink, Orange, Purple, White, Brown.
Odour	Pungent
Odour Threshold	4.2 - 5960 ppm (5.5 - 7794.2 mg/m3)
pH	Not available
Melting Point/Freezing Point	-97.7 ºC (-143.9 ºF) (melting); -97.7 ºC (-143.9 ºF) (freezing)
Initial Boiling Point/Range	64.7 ºC (148.5 ºF)
Flash Point	11 ºC (52 ºF) (closed cup)
Evaporation Rate	4.1 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	36% (upper); 6% (lower)
Vapour Pressure	96.0 mm Hg (12.8 kPa) at 20 ºC
Vapour Density (air = 1)	1.1
Relative Density (water = 1)	0.791 - 0.850 at 25 ºC
Solubility	Soluble in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	-0.77 at 20 ºC
Auto-ignition Temperature	464 ºC (867 ºF)
Decomposition Temperature	Not available
Viscosity	0.686 - 0.699 mm2/s at 25 ºC (kinematic); 0.54 - 0.55 mPa.s at 20 ºC (dynamic)

Other Information

Physical State	Liquid
Molecular Weight	32.04

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Heat. Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 11.0 ºC (51.8 ºF)

Incompatible Materials

Reacts violently with: reacts explosively with: strong oxidizing agents (e.g. perchloric acid).
Highly reactive. Strong acids (e.g. hydrochloric acid).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Ingestion; eye contact; skin contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LDLo - Oral	LD50 (dermal)
Methanol	83867.5 mg/m3 (rat) (4-hour exposure)	143 mg/kg Human - Male	15800 mg/kg (rabbit)

LC50: Not applicable.

LD50 - Oral - Rat - 5628 mg/kg

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

Human experience shows very mild irritation.

Serious Eye Damage/Irritation

Animal tests show serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May be harmful based on human experience and animal tests. Depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness.
Toxic, can cause death based on human experience. At high concentrations.

Skin Absorption

Harmful based on human experience. Can cause effects as described for inhalation. Depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness.

Ingestion

Toxic, can cause death depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause damage to organs based on limited evidence. If inhaled: effects on the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.
May cause Following skin contact: dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.
May cause If inhaled: at high concentrations visual distubances, cataracts, opacities.
May cause If inhaled: at high concentrations harmful effects on the liver.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Methanol	Not Listed	Not designated	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

Animal studies show effects on the offspring. If inhaled: known to cause: decreased weight, birth defects. Teratogenic(external, soft tissue and skeletal defects) embryotoxic (late resorptions).

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

May cause effects on or via lacation. Can transfer to mother's milk.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS.
This section is not required by OSHA HCS 2012.

Ecotoxicity

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Methanol	15400 mg/L (Lepomis macrochirus (bluegill); 96-hour)	10000 mg/L (Daphnia magna (water flea); 48-hour)		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Methanol	7900 mg/L (Lepomis macrochirus (bluegill); 200-hrs)			

Persistence and Degradability

Degrades rapidly based on quantitative tests.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1230	METHANOL	3 (6.1)	II
US DOT	1230	METHANOL	3 (6.1)	II

Environmental Hazards Not applicable

Special Precautions Please note: In containers of 1 L (1Kg) capacity or less this product is classified as a "Limited Quantities""Consumer Commodity" under TDG regulations.
In containers of 1 L (1Kg) this product is qualified as a "consumer commodity" ORM-D under DOT

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Proof of Dangerous Goods Classification

Date of Classification February 26, 2016

Technical Name Methanol

Classification 3 (6.1) PG II

Classification Method Methanol's classification is listed in Schedule 1 of the TDG Regulation see UN1230. Recochem confirmed the flashpoint in lab test.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65.

Custom Regulatory 1

Consumer Product Safety Improvement Act of 2008 General Conformity Certification
The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged

in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Compliance and Regulatory Department
Phone No.	905-878-5544
Date of Preparation	May 05, 2017
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
Additional Information	We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative. Please send us your request by visiting our website at www.recochem.com. Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.
Disclaimer	Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.